



**ELECTRONIC
INNOVATIONS**
IN ACTION

TUBES

—PRODUCT INFORMATION—

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12-70

6AH9

Compactron Triode-Pentode

- | | | |
|------------------|----------------------------|------------------------------|
| ■ COLOR TV TYPE | ■ FRAME-GRID VIDEO PENTODE | ■ 10 WATTS PLATE DISSIPATION |
| ■ MULTI-FUNCTION | ■ 21000 MICROMHOS | ■ MEDIUM-MU TRIODE |

The 6AH9 is a compactron containing a medium-mu triode and a sharp-cutoff, frame-grid pentode. The pentode is designed primarily for video amplifier service and the triode for color blanker or general purpose applications in color television receivers

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC*.....6.3 ± 0.6 Volts

Heater Current.....0.9 Amperes

Direct Interelectrode Capacitances♦

Pentode Section

Grid-Number 1 to Plate: (Pg1 to Pp)0.15 pf

Input: Pg1 to (h + Pk + Pg2 + Pg3 + i.s.)15 pf

Output: Pp to (h + Pk + Pg2 + Pg3 + i.s.)6.0 pf

Triode Section

Grid to Plate: (Tg to Tp)3.7 pf

Input: Tg to (h + Tk)2.4 pf

Output: Tp to (h + Tk)0.4 pf

MECHANICAL

Operating Position - Any

Envelope - T-9, Glass

Base - E12-70, Button 12-Pin

Outline Drawing - EIA 9-59

Maximum Diameter1.188 Inches

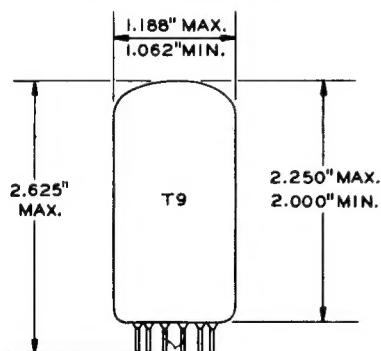
Minimum Diameter.....1.062 Inches

Maximum Over-all Length.....2.625 Inches

Maximum Seated Height.....2.250 Inches

Minimum Seated Height2.000 Inches

PHYSICAL DIMENSIONS

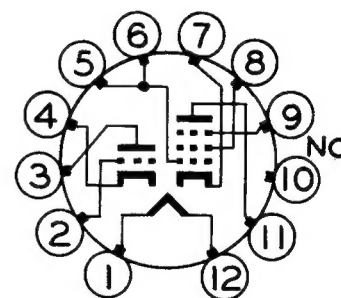


EIA 9-59

TERMINAL CONNECTIONS

- Pin 1 - Heater
- Pin 2 - Triode Grid
- Pin 3 - Triode Plate
- Pin 4 - Triode Cathode
- Pin 5 - Pentode Grid Number 1
- Pin 6 - Pentode Grid Number 1
- Pin 7 - Pentode Cathode
- Pin 8 - Pentode Grid Number 2 (Screen)
- Pin 9 - Pentode Grid Number 3 (Suppressor)
and Internal Shield
- Pin 10 - No Connection
- Pin 11 - Pentode Plate
- Pin 12 - Heater

BASING DIAGRAM



EIA 12HJ

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express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.

GENERAL ELECTRIC

Supersedes 6AH9 PI Sheet dated 10-68

MAXIMUM RATINGS**DESIGN-MAXIMUM VALUES**

| | Pentode Section | Triode Section | |
|------------------------------------------|--------------------|-------------------|---------|
| Plate Voltage..... | 400 | 330 | Volts |
| Suppressor Voltage..... | 0 | --- | Volts |
| Screen Supply Voltage..... | 330 | --- | Volts |
| Screen Voltage - See Screen Rating Chart | | | |
| Positive DC Grid-Number 1 Voltage..... | 0 [▲] | 0 | Volts |
| Plate Dissipation..... | 10 | 2.0 | Watts |
| Screen Dissipation..... | 1.0 | --- | Watts |
| Heater-Cathode Voltage | | | |
| Heater Positive with respect to Cathode | | | |
| DC Component..... | 100 | 100 | Volts |
| Total DC and Peak..... | 200 | 200 | Volts |
| Heater Negative with respect to Cathode | | | |
| Total DC and Peak..... | 200 | 200 | Volts |
| Grid-Number 1 Circuit Resistance | | | |
| With Fixed Bias..... | 0.1 | 1.0 | Megohms |
| With Cathode Bias..... | 0.25 | --- | Megohms |

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION**AVERAGE CHARACTERISTICS**

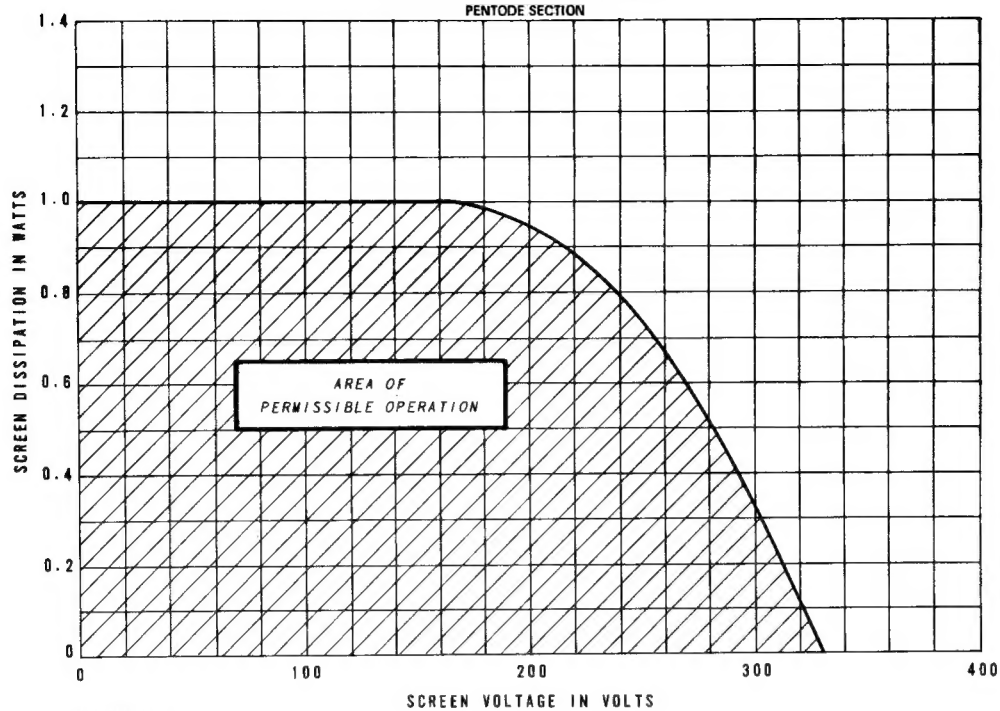
| | Pentode Section | Triode Section | |
|------------------------------------|--------------------|-------------------|--------------|
| Plate Voltage..... | 50 250 | 250 | Volts |
| Screen Voltage..... | 125 150 | --- | Volts |
| Grid-Number 1 Voltage..... | 0 [§] 0 | -9.0 | Volts |
| Cathode-Bias Resistor..... | --- | --- | Ohms |
| Amplification Factor..... | --- | 20 | |
| Plate Resistance, approximate..... | 55000 | 7500 | Ohms |
| Transconductance..... | 21000 | 2750 | Micromhos |
| Plate Current..... | .76 25 | 8.0 | Milliamperes |
| Screen Current..... | .32 6.0 | --- | Milliamperes |
| Grid-Number 1 Voltage, approximate | | | |
| Ib = 100 Microamperes..... | --- | -7.2 -18 | Volts |

NOTES

- * The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.
- Heater current of a bogey tube at $E_f = 6.3$ volts.
- ◆ Without external shield.
- ▲ Control grid to cathode spacing of the pentode section of this tube is of such low order of magnitude as to preclude the use of voltage between these elements of more than 50 volts dc or peak ac in commercial tube checkers and shorts-indicating devices, particularly where mechanical excitation of the tube is employed.
- § Applied for short interval (two seconds maximum) so as not to damage tube.

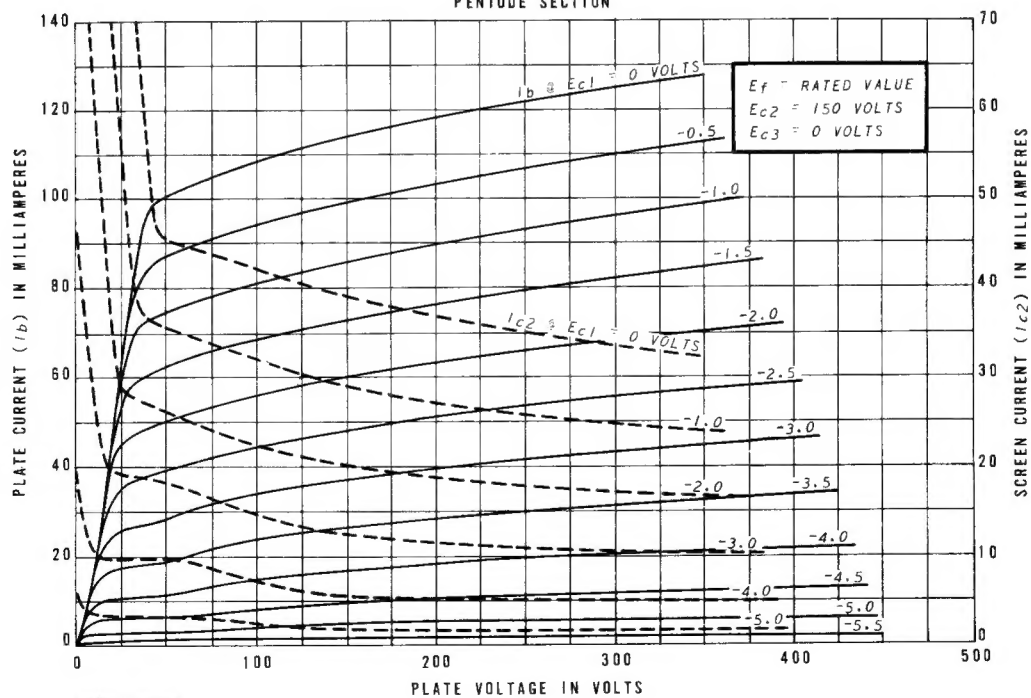
SCREEN RATING CHART

PENTODE SECTION



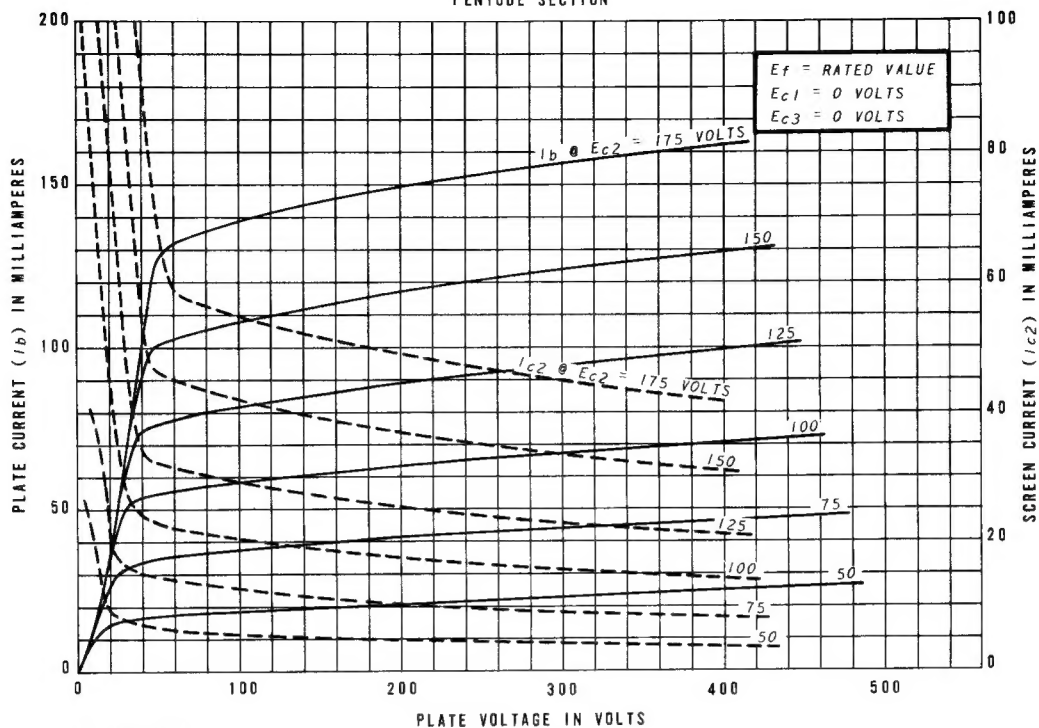
AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION



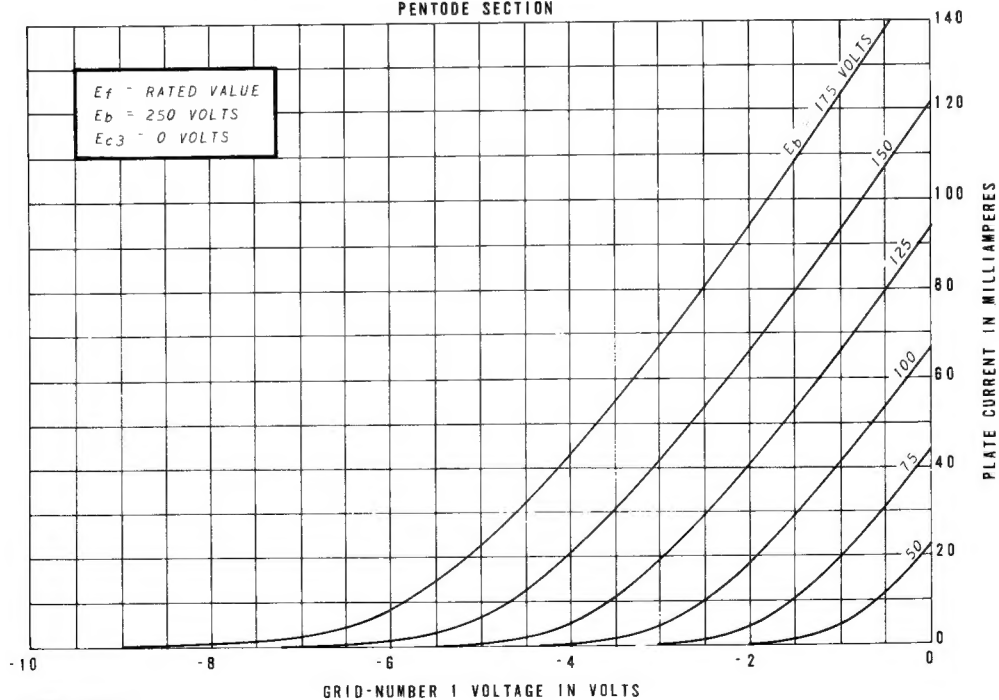
AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION



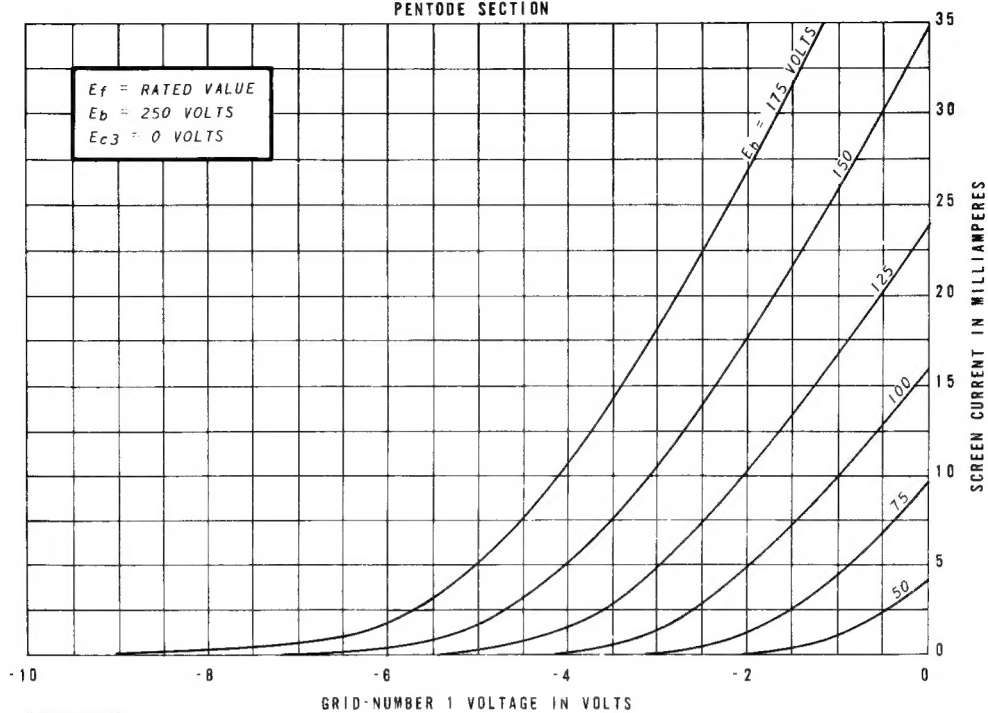
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



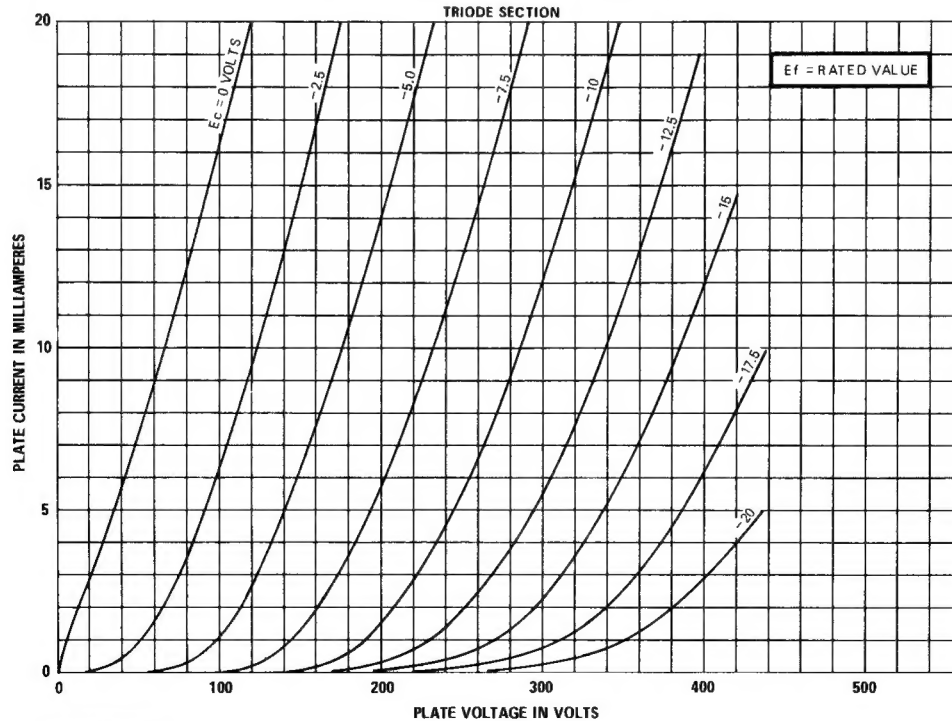
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION

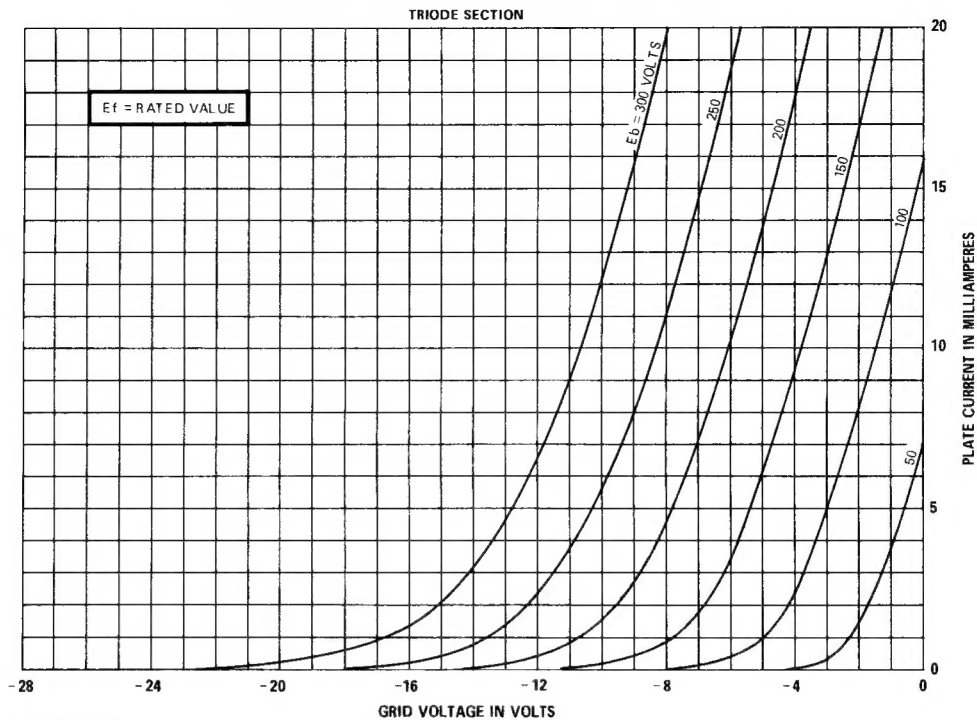


AVERAGE PLATE CHARACTERISTICS

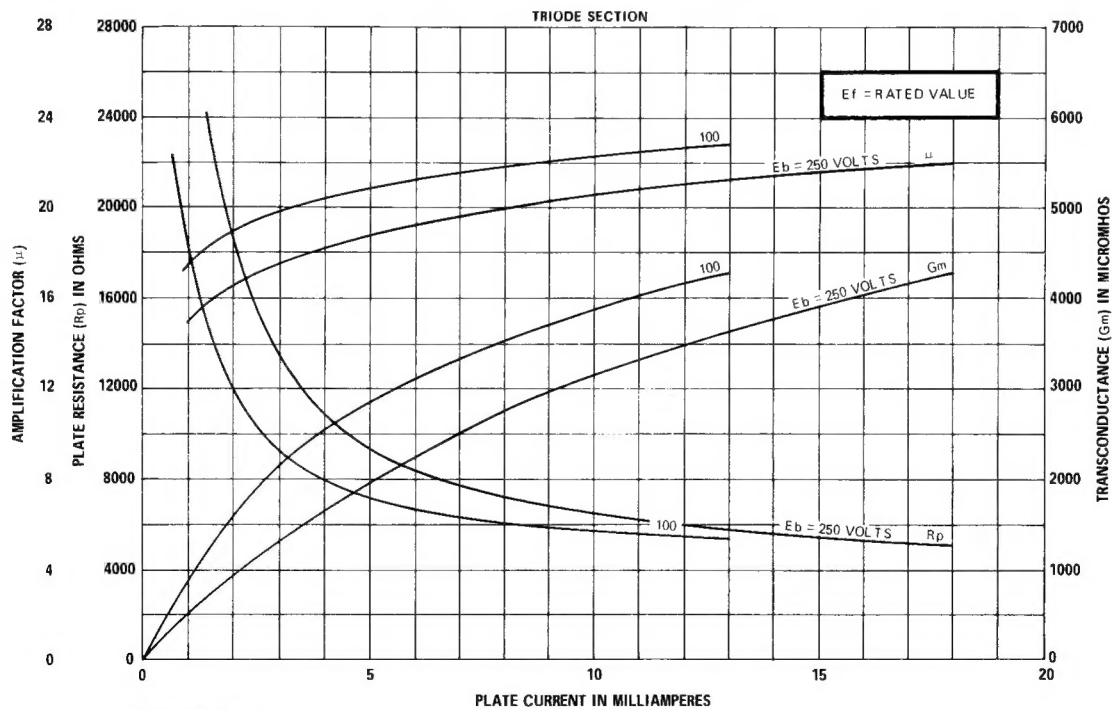
TRIODE SECTION



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE CHARACTERISTICS



TUBE PRODUCTS DEPARTMENT

GENERAL  **ELECTRIC**

Owensboro, Kentucky 42301